

Claims

1. A needleless syringe comprising a body (2) that accommodates a cylindrical reservoir (3) which is closed off by a displaceable upstream obturator (4) and by a displaceable downstream obturator (5) and which encloses an active principle (6), and comprising, downstream of this, a receptacle (7, 31, 41, 51, 61) with at least one peripheral injection conduit (8, 38, 48, 58, 68), said receptacle bearing on the reservoir and comprising a bore (10, 30, 40, 50, 60) in which the downstream obturator (5) lodges when it is brought into contact with the bottom (7a) of the bore of said receptacle by the operation of a drive means (70) that displaces the assembly of upstream obturator, liquid and downstream obturator, said syringe being characterized in that the lateral wall of the bore comprises at least one protuberance reducing the cross section relative to the upstream opening of the bore, and in that the internal volume of said bore permits clearance of the inlets of the peripheral conduits when the downstream obturator is lodged in the bore (10, 30, 40, 50, 60).
2. The needleless syringe as claimed in claim 1, characterized in that the central bore (10) comprises a single circular protuberance.
3. The needleless syringe as claimed in claim 2, characterized in that said circular protuberance is the superposition of two truncated cones converging then diverging from the upstream face of the receptacle.
4. The needleless syringe as claimed in claim 1,

characterized in that the central bore comprises several superposed circular protuberances over at least part of the height of the bore (10).

5 5. The needleless syringe as claimed in claim 4, characterized in that said protuberances are a superposition of several truncated cones converging and diverging over at least part of the height of the bore.

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6. The needleless syringe as claimed in claim 1, characterized in that the central bore comprises a helical protuberance in the form of an internal threading (52).

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7. The needleless syringe as claimed in claim 1, characterized in that the central bore comprises at least one protuberance (62) along a generatrix of the bore.

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8. The needleless syringe as claimed in claim 7, characterized in that said protuberances are distributed in line with the injection conduits.